

REMARKS/ARGUMENTS

1. Amendment to the specification:

Applicant has amended specification paragraph [0033] to correct four miswritten terms “data line driving IC mounting area 50”, 5 “scanning driving ICs”, “The described driving IC mounting area 52” and “the described data line driving IC areas”, and they are respectively replaced with “scanning line driving IC mounting area 50”, “scanning driving IC mounting areas”, “The described data line driving IC mounting area 52” and “the described data line driving IC mounting areas” according to Fig. 7. No new matter is introduced. Acceptance of 10 the amendment to the paragraph [0033] is politely requested.

2. Amendment to the claims:

Claims 2, 4, 8-11 have been amended for correcting miswritten 15 mistakes. Claim 2 has been amended to correct the term “second driving mounting area” replaced with “second driving IC mounting area”. Claim 4 has been amended to omit the limitation of “when the liquid crystal cell test is completed, the first and the second shorting bars are used to connect to the first driving IC in series”. Claim 8 has been amended to 20 correct the term “third line” replaced with “third conductive wire”. Claim 9 has been amended to depend on claim 8. Claim 10 has been amended according Fig. 7 and Para [0032]. Claim 11 has been amended according Fig. 7 and Para [0033]. No new matter is introduced. Reconsideration of claims 2, 4, 8-11 is therefore politely requested.

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3. Claim Objections

(1) *Claim 10 is objected to because of the following informalities: in line 2, the recitation “another plurality of first bounding pads” should be --a plurality of bounding pads-- since claim 10 is dependent 30 on claim 1 and claim 1 does not recite any bounding pads.*

Appropriate correction is required.

Response:

The amended claim 1 has the term “a plurality of bounding pads”, so the term “another plurality of first bounding pads” in claim 10 has been 5 replaced with the term “the first bounding pads” to overcome this objection. No new matter is introduced. Reconsideration of claim 10 is therefore politely requested.

(2) *Claim 10 is objected to because of the following informalities: claim 10 recites the limitation “the first flexible driving IC” in line 6. There is insufficient antecedent basis for this limitation in the claim.*
Appropriate correction is required.

Response:

The term “the first flexible driving IC” in Claim 10 has been 15 replaced with the term “the first flexible printed circuit”. No new matter is introduced. Reconsideration of claim 10 is therefore politely requested.

(3) *Claim 11 is objected to because of the following informalities: in line 3, the recitation “another plurality of second bounding pads” should be --a plurality of bounding pads-- since claim 11 is dependent on claim 2, which is dependent on claim 1, and claims 1 and 2 do not recite any first bounding pads. Appropriate correction is required.*

Response:

25 Claim 11 has been amended as required by examiner.
Reconsideration of claim 11 is therefore politely requested.

4. Claim Rejections- 35 USC 112

30 *Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claim 11 recites the*

limitation “another plurality of second bounding pads located on the third shorting bars between two neighboring second mounting areas for electrical connecting a second flexible printed circuit to the first, the second, and the third shorting bars between the two second driving IC 5 mounting areas, wherein the second flexible printed circuit is for inputting a signal to the first driving IC.” This implies that the plurality of second bounding pads are used to electrically connect the first shorting bar, the second shorting bar, the third shorting bar, the second flexible printed circuit, the first driving ICs, the second driving IC 10 altogether. However, according to claims 1 and 2, the first and second shorting bars are received the signals from the first driving ICs and the third shorting bar is received the signal from the second driving IC. Thus, claim 11 is unable for one skilled in the art to make and/or use the invention for performing a liquid cell test because of the mixed 15 electrical signals between the first driving ICs and the second driving IC.

Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the 20 subject matter which applicant regards as the invention. The specification does not describe another plurality of second bounding pads located on the third shorting bars between two neighboring second driving IC mounting areas for electrically connecting a second flexible printed circuit to the first, the second, and the third shorting bars 25 between the two second driving IC mounting areas, wherein the second flexible printed circuit is for inputting a signal to the first driving IC. As shown in Fig. 7 of the specification, a scanning line driving IC mounting area 50 is a second driving mounting area, a plurality of second bounding pads is connected to the shorting bars 60a and 60b at 30 the second driving mounting area 50, and another plurality of first

bounding pads 64 electrically connect a second flexible printed circuit 59 to the first, second and third shorting bars 54a, 54b and 54c, wherein the second flexible circuit board is located between the two first driving IC mounting areas 52 and the second flexible circuit board is for 5 inputting a signal to the first(data line) driving IC(paragraph 32).

Response:

Claim 11 has been amended to overcome this rejection according to Fig. 7 and Para[0033]. The term of “the first, the second, and the third shorting bars” has been replaced with the term of “the third shorting bar”. The term of “the first driving IC” has been replaced with the term of “the second driving IC”. Therefore, the second driving IC mounting areas, the second driving ICs, the second bounding pads and the third shorting bar are respectively regarded as the scanning line driving IC mounting areas, the scanning line driving ICs, the bounding pads and the shorting bars for the scanning line driving ICs in Fig. 7. Therefore, Applicants believe the amended claim 11 should be allowable over 35 U.S.C. 112.

5. Claim Rejections- 35 USC 102

20 *Claim 1-11 are rejected under 35 U.S.C 102(e) as being anticipated by Ohgiichi et al. (Ohgiichi, US 7,129,998 B2, as cited on pages 4-8 of the above-identified Office action).*

Response:

Claim 1

25 Claim 1 has been amended to include the limitation that the claimed LCD comprises a plurality of first bounding pads disposed on the substrate for electrically connecting a first flexible printed circuit and the first and the second shorting bars and the first and the second shorting bars are connected to the first driving ICs in series after the liquid crystal cell test, which are originally recited in claims 4 and 10.

Applicants believe the amended claim 1 is patentable over Ohgiichi et al. based on the following traversal.

Accordingly to the amended claim 1 and Fig. 7, the first and second shorting bars 54a, 54b are electrically connected to the first driving ICs mounted on the first driving IC mounting areas 52 in series through the bonding pads 64, and the first and second shorting bars 54a, 54b are further electrically connected to the first flexible printed circuit (FPC) 59 through the first bonding pads 55 (power bonding pad). As a result, *after the liquid crystal cell test is completed, the first and second shorting bars 54a, 54b are used for electrically connecting the first FPC 59 and the first driving ICs with the first bonding pads 55, wherein the first and second shorting bars 54a, 54b serve as conductive wires on glass (WOG) for transferring driving signals. In other words, the first FPC can be electrically connected to all the first driving ICs through the first and second shorting bars after test is completed according to the amended claim 1.* Accordingly, the present invention provide an advantage of reducing the number of conductive wires and saving the space of the substrate by taking the first and second shorting bars as conductive wires for transferring image signals.

In contrast, according to Figs. 3(a) and 3(b) of Ohgiichi, the scan/signal line side common lines (explained as shorting bars by Examiner) C1~C9 are **separated** from the TTA/TTB (gate/drain driver input terminals) and GTM/DTM (gate/drain output terminals) because laser is used to cut the wires along the laser cut lines LCT1 and LCT2 after having completed the test. And according to col. 4 lines 1-3 and Fig. 10 of Ohgiichi “Outputs of the drain drivers are connected to signal line leads DTM, while their inputs are coupled to wiring lines of a flexible printed circuit board FPC2”, thus *the signal inputted from the*

*FPC2 has to be transferred through the **TTB** additionally formed on the substrate near each of the driving IC mounting area/driving IC (DDR) for coupling the drain driver and the DTM, not through any shorting bars or the signal line side common lines.* In the Office Action, 5 examiner asserts that the common lines C8 and C6 are respectively regarded as the first and second shorting bar of the present invention. Therefore, **Ohgiichi never teaches the signal line side common lines or any shorting bars connect the FPC2 and the DDR through any bonding pads, nor teaches that the signal line side common lines are** 10 **electrically connected to the DDGs in series.** Especially, after having completed test, each DDR is directly and individually connected to one nearest FPC2 as shown in Fig. 10 of Ohgiichi, without through any bonding pads or shorting bars. As a result, Ohgiichi never teaches or suggests to electrically connect the FPC 2 to all the driving ICs (DDR) 15 through any shorting bars, which is determined in the amended claim 1 of the present invention.

Since the amended claim 1 of the present invention does not require the TTB recited in Ohgiichi. Therefore, Ohgiichi fails to teach the 20 limitation of “a plurality of first bounding pads disposed on the substrate for electrically connecting a first flexible printed circuit and the first and the second shorting bars; wherein after the liquid crystal cell test is completed, the first and the second shorting bars are connected to the first driving ICs in series” recited in the amended 25 claim 1, and cannot provide the same advantage of reducing the number of conductive wires and saving the space of the substrate of the present invention. As set forth in MPEP 2131 about anticipation of 35 U.S.C. 103(e), “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a 30 single prior art reference”, the amended claim 1 is not anticipated by

Ohgiichi at all and is patentable. Reconsideration of claim 1 is therefore politely requested.

Claim 10

5 Claim 10 has been amended to clearly describe that the control signal only inputted from **single FPC** can be transferred to each driving IC and data line/scan line through the shorting bar, as shown in Fig.4. As the above-mentioned, **Ohgiichi never teaches the signal line side common lines or any shorting bars connect the FPC2 and the DDR**
10 **through any bonding pads, nor teaches that the signal line side common lines are electrically connected to the DDRs in series.** As a result, Ohgiichi fails to teach the limitations of “the first bounding pads are located on the first and the second shorting bars between two neighboring first driving IC mounting areas, and the first flexible
15 printed circuit electrically connected to the first bounding pads inputs signals to the first driving ICs through the first and second shorting bars” recited in claim 10. As set forth in MPEP 2131 about anticipation of 35 U.S.C. 103(e), “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently
20 described, in a single prior art reference”, the amended claim 10 is not anticipated by Ohgiichi at all and is patentable. Reconsideration of claim 10 is therefore politely requested.

Claims 2-9 and 11

25 Regarding claims 2-9 and 11, claims 2-9 and 11 are dependent on claim 1 and should be allowed if claim 1 is allowed. Reconsideration of claims 2-9 and 11 is therefore requested.

6. Introduction of new claims 21 and 22

30 Claim 21 is newly entered, and the limitations recited in claim 21

are disclosed in Fig. 5 and Para [0024,0030], as well as Fig.4 and Figs.6-7. As all of the limitations are fully supported by the specification, no new matter is introduced. As the above-mentioned reason, **Ohgiichi never teaches that the signal line side common lines are electrically connected to the DDRs in series.** Therefore, the limitation of “the first driving ICs are electrically connected to the first shorting bar and the second shorting bar after the liquid crystal cell test” recited in new claim 21 is not anticipated by Ohgiichi at all, and the new claim 21 is patentable. Consideration of the above newly added claim 21 is respectfully requested.

Claim 22 is newly entered, and the limitations recited in claims 22 are disclosed in Fig. 5 and Para [0024,0030], as well as in Fig.4 and Figs. 6-7. As all of the limitations are fully supported by the specification, no new matter is introduced. As the above-mentioned reason, **Ohgiichi never teaches the signal line side common lines or any shorting bars connect the FPC2 and the DDR through any bonding pads directly.** Therefore, the limitation of “the first driving IC mounting areas comprise a plurality of third bounding pads disposed on the first and the second shorting bars, and the bounding pads electrically connect the first and the second shorting bars to the first driving ICs directly” recited in new claim 22 is not anticipated by Ohgiichi at all, and the new claim 22 is patentable. Consideration of the above newly added claim 22 is respectfully requested.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

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Sincerely yours,



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